Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-3 (cancelled).

Claim 4 (currently amended): A point-diffraction interferometer ~~using~~ for testing quality of an EUV (Extreme Ultraviolet) optical system like EUV lithography by use of a high-order harmonic X-ray, comprising:

a high power femtosecond laser;

a laser intensity controller for adjusting laser intensity and beam size of a femtosecond laser pulse generated by the high power femtosecond laser in order to reduce intensity of short wavelength harmonics with orders greater than a predetermined order;

a gas-filled hollow tube target for focusing the femtosecond laser beam in order to generate a high-order harmonic X-ray beam;

a gas pressure controller for adjusting the pressure of the target gas in order to reduce intensity of long wavelength harmonics with orders less than a predetermined order;

an interferometer plate implemented by a thin film having a pinhole and arranged to be perpendicular to an incident path of a high-order harmonic X-ray beam to generate a diffracted beam forming a reference ~~beam~~ and a transmitted beam; and

an X-ray detector disposed on the path of the reference and transmitted beams to detect an interference pattern generated through the interference of the reference and

transmitted beams.

Claim 5 (previously presented): The point-diffraction interferometer according to claim 4, wherein the interferometer plate is a thin foil in which pinholes are formed through a drilling technique using high power femtosecond laser.

Claim 6 (cancelled).

Claim 7 (original): The point-diffraction interferometer according to claim 6, wherein the high-order harmonic X-ray beam is generated so that a single harmonic order is dominantly generated by manipulating both the laser intensity controller and the gas pressure controller.

Claim 8 (original): The point-diffraction interferometer according to claim 7, further comprising an X-ray filter disposed to be perpendicular to the path of the reference and transmitted beams between the interferometer plate and the X-ray detector to eliminate noise components originating from the femtosecond laser beam.

Claim 9 (original): The point-diffraction interferometer according to claim 8, wherein the femtosecond laser pulse is generated so that a pulse width thereof is approximately 20 femtoseconds, and energy per pulse is approximately 0.35mJ.

Claim 10 (original): The point-diffraction interferometer according to claim 9, wherein the interferometer plate is movable along X and Y axes by actuators.

Claim 11 (currently amended): A high-order harmonic X-ray generation method~~, the method generating a coherent high order~~

~~harmonic X-ray~~ for testing quality of an EUV (Extreme Ultraviolet) optical system like EUV lithography by use of the high-order harmonic X-ray, wherein the high-order harmonic X-ray is coherent and generated by focusing a high power femtosecond laser pulse generated by a high power femtosecond laser into a gas-filled hollow tube target, comprising the steps of:

reducing intensity of long-wavelength harmonics with orders less than a predetermined order by controlling the pressure of the target gas and using an X-ray filter with low transmissivity in a long wavelength region while the laser pulse is focused into the target;

reducing intensity of short wavelength harmonics with orders greater than the predetermined order by adjusting focused intensity of the high power femtosecond laser beam while the laser pulse is focused into the target; and

allowing harmonics near the predetermined order to be phase-matched by adjusting the beam size of the high power femtosecond laser beam.